UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,844	06/28/2006	Wen Gao	LPTF-TRAN-10	3452

23900   7590   11/30/2010

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EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2482	

MAIL DATE	DELIVERY MODE
11/30/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2010*.

2a)☐ This action is **FINAL**.　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

　　4a) Of the above claim(s) *5 and 6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Election/Restrictions

1.   Applicant's election without traverse of fig. 4 corresponding to claim(s) 1-4 and 7-

10 in the reply filed on 10/12/10 is acknowledged.

2.   Claim(s) 5 and 6 is/are withdrawn from further consideration pursuant to 37 CFR

1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic

or linking claim.

Specification

3.   Applicant is reminded of the proper language and format for an abstract of the
disclosure.

     The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

     The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4.   The abstract of the disclosure is objected to because legal phraseology

"comprising" is used. Correction is required. See MPEP § 608.01(b).

Drawings

5.   The drawing(s) is/are objected to because fig. 2 contains a typographical error.

Call out "encode" and "encoding" at the beginning and at the end of the process

respectively is shown but the specification discloses a decoder. Corrected drawing

sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to

avoid abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the

appropriate figure must be removed from the replacement sheet, and where necessary,

the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement

sheets may be necessary to show the renumbering of the remaining figures. Each

drawing sheet submitted after the filing date of an application must be labeled in the top

margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Objections

6.   Claim 1 is objected to because of the following informalities: "thenproceeding" is

misspelled in line 7. Appropriate correction is required.

7.   Claim(s) 9 is/are objected to because of the following informalities: All

abbreviations should be spelled out at the first occurrence. Appropriate correction is

required.

8.   Claim 8 is objected to because of the following informalities: "encodthem" is

misspelled in line 9. Appropriate correction is required.

Claim Rejections - 35 USC § 101

9.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claim(s) 1-4 and 7-10 is/are rejected under 35 U.S.C. 101 as not falling within

one of the four statutory categories of invention.   Supreme Court precedent[1] and recent

Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must

(1) be tied to another statutory category (such as a particular apparatus), or (2)

transform underlying subject matter (such as an article or material) to a different state or

thing. While the instant claim(s) recite a series of steps or acts to be performed, the

claim(s) neither transform underlying subject matter nor positively tie to another

statutory category that accomplishes the claimed method steps, and therefore do not

qualify as a statutory process.   For example, the "adding one indication", "selecting

coding", etc. method are of sufficient breadth that it would be reasonably interpreted as

a series of steps completely performed mentally, verbally or without a machine. The

applicant has provided no explicit and deliberate definitions of "adding one indication",

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

"selecting coding", etc. to limit the steps to the electronic form of the "an encoding method".

Claim Rejections - 35 USC § 112

10.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11.   Claim(s) 8 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12.   Claim(s) 8, the phrase "its" renders the claim indefinite because it is unclear what "its" refers to.

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14.   Claims 1, 2, 7, 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated

by Srinivasan et al. (US 2003/0113026).

Regarding claim 1, Srinivasan discloses an encoding method (see abstract) for

skipped macroblocks in a video image (see fig. 12), characterized in that it comprises

the steps of: step 1, adding one indication bit (e.g. see 1420 and 1430 in fig. 14) into a

picture header (see fig. 15) for indicating a coding mode (see ¶ [0127] and ¶ [0158]) for

skipped macroblocks in a current image (see fig. 12); step 2, selecting the coding mode

for a macroblock type (e.g. see Table 2) in the current image according to the number of

skipped macroblocks, if it is a run_length coding (see ¶ [0119]), then proceeding to step

3; if it is a joint coding (see ¶ [0153]) of the number of skipped macroblocks and the

macroblock type, then proceeding to step 4; step 3, setting the indication bit of the

picture header as a status indicating a run_length coding (see Table 2), and encoding

(see fig. 7) the macroblock type in the image by the run_length coding mode; then

proceeding to step 5; step 4, setting the indication bit of the picture header as status

indicating a joint coding (see Table 3) and encoding (see fig. 7) the macroblock type in

the image by the joint coding mode of the number of skipped macroblocks and the

macroblock type; then proceeding to step 5; step 5, encoding the current image and

writing data into a code stream (see fig. 7).

Regarding claim 2, Srinivasan further discloses wherein the indication bit added

in step 1 is for all the picture headers of the pictures to be coded (see table 2).

Regarding claim 7, Srinivasan further discloses wherein the run_length coding mode in step 3 is to employ a variable_length coding (see ¶ [0153]) to encode the number of skipped macroblocks for continuous skipped macroblocks; and add one indication bit between continuous non-skipped macroblocks to indicate that the number of skipped macroblocks is 0 (see 1430 in fig. 14).

Regarding claim 8, Srinivasan further discloses wherein the joint coding mode of the number of skipped macroblocks and the macroblock type in step 4 is to process P frame image and B frame image together (see ¶ [0094]), add one skip type in macroblock types, determine its position in a macroblock type table by its average appearance probability (see ¶ [0153]), and correspondingly adjust the whole macroblock type table (see ¶ [0153]); for the skipped macroblocks, to encode them one by one by using the skip type according to their skipped counters and indicating them one by one (see fig. 14); for the non-skipped macroblocks, to encode them by using corresponding macroblock types (see fig. 10).

Regarding claim 10, Srinivasan further discloses wherein said coding mode for skipped macroblocks is adaptive to be performed not only for frame coding but also for field coding (see table 1).

Claim Rejections - 35 USC § 103

15.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

16.   Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Srinivasan et al. (US 2003/0113026) in view of Hatano et al. (US 6,792,046).

          Regarding claim 3, although Srinivasan discloses wherein selecting the coding

mode for a macroblock type in the current image in the step 2 is through encoding

procedure comprising the particular steps of: step 200, employing the run_length coding

mode for all the macroblocks in the current image to be coded (see Table 2), and

obtaining corresponding coding performance parameters after above processing (e.g.

see ¶ [0134]); step 201, encoding the current image to be coded, employing the joint

coding mode of the number of skipped macroblocks and the macroblock type for all the

macroblocks (see Table 3), and obtaining corresponding coding performance

parameters after above processing (e.g. see ¶ [0162]), it is noted that Srinivasan does

not disclose wherein the run-length coding and joint coding are through a twice

encoding procedure and step 202, comparing the performance parameters obtained

from the twice encoding, and selecting an optimal coding mode for the skipped

macroblocks in the current image.

However, Hatano, in the same field of endeavor, discloses a coding mode method wherein the run-length coding (see 104 in fig. 6) and joint coding (see 5a in fig. 6) are through a twice encoding procedure (see 5a and 104 in fig. 6) and step 202, comparing the performance parameters obtained from the twice encoding (see diamond block in fig. 9), and selecting an optimal coding mode for the skipped macroblocks in the current image (se "yes" or "no" coding mode in fig. 9).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Hatano teachings of optimum encoding mode into Srinivasan encoding mode for the benefit of providing an encoding method for avoiding the overflow of a transmission buffer and the underflow of a VBV buffer effectively.

Regarding claim 4, Srinivasan does not disclose wherein the performance parameters to be compared comprise: a signal-to-noise ratio and a coding rate.

Although it is not explicitly recited, it is conventional in the art for utilizing rate and distortion as a basis for performance. The Examiner takes official notice that rate and distortion is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate rate and distortion as a performance parameter for the benefit of accurately comparing one performance over the other.

17.   Claims 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Srinivasan et al. (US 2003/0113026) in view of Hagai et al. (US 2004/0146105).

Regarding claim 9, although Srinivasan discloses wherein the joint coding mode

of the number of skipped macroblocks and the macroblock type in step 4 is to process P

frame image and B frame image (see ¶ [0094]): if it is a P frame image, adding a skip

type in a former macroblock type table to encode (see fig. 12): if it is a B frame image

(see ¶ [0094], although the details of coding mode for B-frame is not shown, it is implied

in ¶ [0094] that B-frame coding mode is processed similarly to P-frame), modifying its

former mode coding, the coding mode for each skipped macroblock is to use a mode

coding value closely followed by a CBP zero coding value (see 1410 in fig. 14), and the

coding mode for the non-skipped macroblock is to use a mode coding value closely

followed by a CBP non zero coding value (see 1410 in fig. 14), it is noted that

Srinivasan does not disclose to process P frame image and B frame image respectively,

and the B-frame mode is direct mode.

However, Hagai, in the same field of endeavor, discloses a coding method

wherein the P frame image and B frame image respectively (see fig. 2), and the B-frame

mode is direct mode (see fig. 5).

Given the teachings as a whole, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to incorporate Hagai teachings of

direct mode into Srinivasan encoding mode for the benefit of for realizing an effective

coding as well as a reduction of the processing burden when a plural reference picture

interpolation prediction is performed.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to RICHARD TORRENTE whose telephone number is

(571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Young Lee/
Primary Examiner, Art Unit 2482

/Richard Torrente/
Examiner, Art Unit 2482